VSR CIVIL INFRA PVT. LTD.
Engineering project Consultants

VSR /BBMP/YNK/W.No.003-002/2019-20 **Date: 15/02/2021**

CERTIFICATE

Division: Yelahanka

Sub Division: Yelahanka satellite Town Sub division

Ward No: 003

Job Code No: 003-20-000080

Name of Work: Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Running Account Bill: 2nd and Part Bill

Value of work completed by Contractor Amount: Rs 86,34,084.00/-

This is to certify that all the Items of Works have been carried out as per Specifications and Conform to MORTH.

for VSR Civil Infra Pvt. Ltd.

VSR CIVIL INFRA PVT LTD BANGALORE 560 010

(Authorized Signatory)

Project Management Consultants

+91 98452 30975 | vsrcivilinfra@gmail.com #522/B , 6th Main Road, Hanumanthanagar, Bengaluru - 19

Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20 Date 18.12.2020

TEST REPORT ON FINE AGGREGATES (SAND)
IS 383-1970 (RA- 2002)

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West), KRIDL, Bengaluru**

Name of Work : Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Date of Testing 18.12.2020

Material : Sand Total wt. of aggregates in gms = **1000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	25	2.50	2.50	97.5	90-100
2.36	148	14.80	17.30	82.7	75-100
1.18	175	17.50	34.80	65.2	55-90
600 Micron	161	16.10	50.90	49.1	35-59
300 Micron	232	23.20	74.10	25.9	8-30
150 Micron	196	19.60	93.70	6.3	0-10

Note:

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

VSR CIVIL INFRA PVT. LTD. BANGALORE

Job No.: CSC/BBMP/KRIDL/W.No.26/2019-20 Date 18.12.2020

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West), KRIDL, Bengaluru**

Name of Work : Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Date of Testing 18.12.2020

Material : 40mm Aggregates

Total wt. of aggregates in gms = **15000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	412	2.75	2.75	97.25	95-100
20	5325	35.50	38.25	61.75	30-70
10	4521	30.14	68.39	31.61	10-35
4.75	4365	29.10	97.49	2.51	0-5

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 06.01.2021

PRECAST SLAB 100mm Thick(CORE) TEST REPORT

Client	:	**Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.
Contractor	:	**M/s. Technical Manager (West),** KRIDL, Bengaluru
Name of Work	:	Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division
No.of Sample Tested	:	03
Date of Testing	:	06.01.2021
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M_{20}

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	74.00	0.339	2333.13	1.48	0.960	31.25	15.92	17.19	16.50	20.63
2	50.00	79.00	0.365	2353.08	1.58	0.960	35.40	18.03	19.47	18.69	23.37
3	50.00	83.00	0.387	2374.67	1.66	0.960	36.20	18.44	19.91	19.11	23.89

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 18.12.2020

TEST REPORT

CLIENT	:	Executive Engineer, Yelahanka Division, BBMP, Bengaluru.
AGENCY	:	M/s. Technical Manager (West), KRIDL, Bengaluru
NAME OF THE WORK	:	Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division
SAMPLE ID	:	Cement (ACC – OPC 53 Grade)
DATE OF MANUFACTURE	:	December - 2020
DATE OF TESTING	:	16.12.2020 to 18.12.2020
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part -5)	145 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	420 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part 3) by the Le-Chatelier method	1 mm	Not more than 10 mm
3	Standard Consistency	IS-4031 (Part -4)	29.00 %	-

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Job No: VSR/BBMP/KRIDL/W.No.03/2019-20

Date: 20.01.2021

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.12.2020	20.01.2021	8.235	505.3	22.46
2	23.12.2020	20.01.2021	8.241	513.6	22.83
3	23.12.2020	20.01.2021	8.263	523.4	23.26

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ಜಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-106

Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20 Date: 20.01.2021

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{30}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.12.2020	20.01.2021	8.232	502.4	22.33
2	23.12.2020	20.01.2021	8.241	515.6	22.92
3	23.12.2020	20.01.2021	8.263	523.9	23.28

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Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20 Date: 20.01.2021

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.12.2020	20.01.2021	8.235	516.3	22.95
2	23.12.2020	20.01.2021	8.241	521.4	23.17
3	23.12.2020	20.01.2021	8.296	512.6	22.78

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VSR CIVIL INFRA PVT. LTD. BANGALORE 560 010

Job No: VSR/BBMP/KRIDL/W.No.03/2019-20 Date: 21.01.2021

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.12.2020	21.01.2021	8.215	502.4	22.33
2	24.12.2020	21.01.2021	8.232	516.3	22.95
3	24.12.2020	21.01.2021	8.241	523.4	23.26

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VSR CIVIL INFRA PVT. LTD. BANGALORE

Job No.: VSR/BBMP/KRIDL/W.No.03/2019-20 Date: 21.01.2021

TEST REPORT ON CONCRETE CUBES

Client : **Executive Engineer,** Yelahanka Division, BBMP, Bengaluru.

Agency : **M/s. Technical Manager (West),** KRIDL, Bengaluru

Name of the work :Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Sample ID : Cement Concrete

Size of cubes : 150mmx150mmx150mm

Cross Sectional Area : 22500 mm^2

Technical Reference : IS: 516-1959 (Reaffirmed 2008)

Grade of Concrete : M_{20}

Compressive Strength as on : 28th day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.12.2020	21.01.2021	8.233	499.6	22.20
2	24.12.2020	21.01.2021	8.254	505.6	22.47
3	24.12.2020	21.01.2021	8.269	523.4	23.26

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VSR CIVIL INFRA P... BANGALORE 560 078

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

Name Of The Work: Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division	
Client	: Executive Engineer, Yelahanka Division, BBMP, Bengaluru.
Consultant	: M/s VSR Civil Infra Pvt. Ltd.
Contractor:	: M/s. Technical Manager (West), KRIDL, Bengaluru

DRY DENSITY OF SOIL/ GSB/WMM (SAND REPLACEMENT METHOD)

TEST METHOD : IS : 2720 (PART XXVIII)

Location / Chainage	: at site	Date of Sampling	29.01.2021
Type of Material	: GSB	Date of Testing	29.01.2021
Source of Material	: Chikkaballapura	Bulk Density of sand(ys)	1.37
Layer Type & No	: 1A	Wt. of Sand in cone, W3	850
LAB M.D.D. Yd	2.28	gm/cm3 @ O.M.C.	5.93

OBSERVATIONS

Sl No	Description/Location	Trial no 01	Trial no 02	Trial no 03	Trial no 04	Trial no 05	Trial no 06
1	Wt. of wet material from hole. W_w	3254	3362	3415			
2	Wt of sand + cylinder before pouring, W_1	16000	16000	16000			
3	Wt of sand + cylinder after pouring, W2	13261	13205	13168			
4	Wt. of sand in hole, W4 = (W1 - W2 - W3)	1889	1945	1982			
5	Volume of Hole V=W4/Ys cc	1378.66	1420.03	1446.63			
6	Bulk Density of material Yb = Ww / V gm/cc	2.360	2.368	2.361			
7	Water content, w(as per QC-2)	1.053	1.054	1.055			
8	Dry density, yd = [(100 yb) / (100+ w)] gm/cm3	2.241	2.246	2.238			
9	compaction achieved =[yd / yd(lab)] x 100%	98.31	98.65	98.11			

Remarks : Test Result is Confirmed as per MORTH Specification

VSR CIVIL INFRA PVT. LTD. BANGALORE 560 040

Consultants representative

Contractor representative

Client Representative

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Name Of The Work: Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Client	: Executive Engineer, Yelahanka Division, BBMP, Bengaluru.
Consultant	: M/s VSR Civil Infra Pvt. Ltd.
Contractor	M/s. Technical Manager (West), KRIDL, Bengaluru

GRADATION FOR WET MIX MECADAM

Purpose	WMM	Date of Sampling	02.02.2021
Source	Chikkaballapura	Sampled by	PMC
Type of Mix	WMM	Date of Testing	02.02.2021
Location	at site	Tested by	PMC
		Weight of sample(gm) :	12541

Sieve Size (mm)	Weight Retained (gm)	Cum. Weight Retained (gm)	Cummulative % Retained	Cummulative % passing	Specification Limits As per MORTH
53	0	0	0.00	100.00	100
45	460	460	3.68	96.32	95--100
22.4	2620	3080	24.56	75.44	60--80
11.2	2735	5815	46.37	53.63	40--60
4.75	2310	8125	64.79	35.21	25--40
2.36	1450	9575	76.35	23.65	15--30
0.6	1055	10630	84.76	15.24	8--22
0.075	1115	11745	93.65	6.35	0--8

Remarks : Test result is confirmed as per MoRTH specification

VSR CIVIL INFRA PVT. LTD. BANGALORE

Consultant representative

Contractor representative

Client Representative

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-106

Name Of The Work: Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Client	: Executive Engineer, Yelahanka Division, BBMP, Bengaluru.
Consultant	: M/s VSR Civil Infra Pvt. Ltd.
Contractor	M/s. Technical Manager (West), KRIDL, Bengaluru.

GRADATION FOR WET MIX MECADAM

Purpose	WMM	Date of Sampling	03.02.2021
Source	Chikkaballapura	Sampled by	PMC
Type of Mix	WMM	Date of Testing	03.02.2021
Location	at site	Tested by	PMC
		Weight of sample(gm) :	14521

Sieve Size (mm)	Weight Retained (gm)	Cum. Weight Retained (gm)	Cummulative % Retained	Cummulative % passing	Specification Limits As per MORTH
53	0	0	0.00	100.00	100
45	240	240	1.68	98.32	95--100
22.4	5050	5290	36.43	63.57	60--80
11.2	2210	7500	51.65	48.35	40--60
4.75	2300	9800	67.49	32.51	25--40
2.36	1870	11670	80.37	19.63	15--30
0.6	625	12295	84.67	15.33	8--22
0.075	1710	14005	96.45	3.55	0--8

Remarks : Test result is confirmed as per MoRTH specification

VSR CIVIL INFRA PVT. LTD. BANGALORE 560 019

Consultants representative

Contractor representative

Client Representative

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Name Of The Work: Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division

Client	: Executive Engineer, Yelahanka Division, BBMP, Bengaluru.
Consultant	: M/s VSR Civil Infra Pvt. Ltd.
Contractor	M/s. Technical Manager (West), KRIDL, Bengaluru

GRADATION FOR WET MIX MECADAM

Purpose	WMM	Date of Sampling	04.02.2021
Source	Chikkaballapura	Sampled by	PMC
Type of Mix	WMM	Date of Testing	04.02.2021
Location	at site	Tested by	PMC
		Weight of sample(gm) :	11754

Sieve Size (mm)	Weight Retained (gm)	Cum. Weight Retained (gm)	Cummulative % Retained	Cummulative % passing	Specification Limits As per MORTH
53	0	0	0.00	100.00	100
45	430	430	3.68	96.32	95--100
22.4	2480	2910	24.76	75.24	60--80
11.2	2540	5450	46.37	53.63	40--60
4.75	2140	7590	64.57	35.43	25--40
2.36	1655	9245	78.65	21.35	15--30
0.6	670	9915	84.35	15.65	8--22
0.075	1220	11135	94.73	5.27	0--8

Remarks : Test result is confirmed as per MoRTH specification

VSR CIVIL INFRA PVT. LTD. BANGALORE 560 010

Consultants representative | Contractor representative | Client Representative

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-10

ne Of The Work: Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding as in ward no: 03 Yelahanka Satellite Town Sub Division	
nt	: Executive Engineer, Yelahanka Division, BBMP, Bengaluru.
sultant	: M/s VSR Civil Infra Pvt. Ltd
ntractor:	: M/s. Technical Manager (West), KRIDL, Bengaluru

DRY DENSITY OF SOIL/ GSB/WMM (SAND REPLACEMENT METHOD)

TEST METHOD : IS : 2720 (PART XXVIII)

ation / Chainage	: at site	Date of Sampling	08.02.2021
pe of Material	: WMM	Date of Testing	08.02.2021
rce of Material	: Chikkaballapura	Bulk Density of sand(ys)	1.37
er Type & No	: 1A	Wt. of Sand in cone, W3	850
B M.D.D. Yd	2.28	gm/cm3 @ O.M.C.	5.93

OBSERVATIONS

Description/Location	Trial no 01	Trial no 02	Trial no 03	Trial no 04	Trial no 05	Trial no 06
Wt. of wet material from hole. W_w	3256	3385	3452			
Wt of sand + cylinder before pouring, W_1	16000	16000	16000			
Wt of sand + cylinder after pouring, W2	13254	13188	13145			
Wt. of sand in hole, W4 = (W1 - W2 - W3)	1896	1962	2005			
Volume of Hole V=W4/Ys cc	1384.15	1432.46	1463.29			
Bulk Density of material Yb = Ww / V gm/cc	2.352	2.363	2.359			
Water content, w(as per QC-2)	1.052	1.052	1.053			
Dry density, yd = [(100 yb) / (100+ w)] gm/cm3	2.237	2.246	2.240			
compaction achieved =[yd / yd(lab)] x 100%	98.11	98.05	98.62			

arks : Test Result is Confirmed as per MORTH Specification

VSR CIVIL INFRA PVT. LTD. BANGALORE 560 019

Consultants representative

Contractor representative

Client Representative

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ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
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Name Of The Work: Asphalting to roads at Chandrappa layout Bharath nagara adithya nagara and surrounding areas in ward no: 03 Yelahanka Satellite Town Sub Division			
Client	: Executive Engineer, Yelahanka Division, BBMP, Bengaluru.		
Consultant	: M/s VSR Civil Infra Pvt. Ltd		
Contractor:	: M/s. Technical Manager (West), KRIDL, Bengaluru		
DRY DENSITY OF SOIL/ GSB/WMM (SAND REPLACEMENT METHOD)			
TEST METHOD : IS : 2720 (PART XXVIII)			
Location / Chainage	: at site	Date of Sampling	10.02.2021
Type of Material	: WMM	Date of Testing	10.02.2021
Source of Material	: Chikkaballapura	Bulk Density of sand(ys)	1.37
Layer Type & No	: 1A	Wt. of Sand in cone, W3	850
LAB M.D.D. Yd	2.28	gm/cm3 @ O.M.C.	5.93

OBSERVATIONS

Sl No	Description/Location	Trial no 01	Trial no 02	Trial no 03	Trial no 04	Trial no 05	Trial no 06
1	Wt. of wet material from hole. W_w	3254	3365	3741			
2	Wt of sand + cylinder before pouring, W_1	16000	16000	16000			
3	Wt of sand + cylinder after pouring, W2	13258	13201	12981			
4	Wt. of sand in hole, W4 = (W1 - W2 - W3)	1892	1949	2169			
5	Volume of Hole V=W4/Ys cc	1380.81	1422.50	1583.49			
6	Bulk Density of material Yb = Ww / V gm/cc	2.357	2.366	2.363			
7	Water content, w(as per QC-2)	1.052	1.053	1.054			
8	Dry density, yd = [(100 yb) / (100+ w)] gm/cm3	2.240	2.246	2.241			
9	compaction achieved =[yd / yd(lab)] x 100%	98.25	98.32	98.54			

Remarks : Test Result is Confirmed as per MORTH Specification

VSR CIVIL INFRA PVT. LTD. BANGALORE 560 078.

Consultants representative

Contractor representative

Client Representative

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ಯಲಹಂಕ ಉಪನಗರ ಉಪವಿಭಾಗ,
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